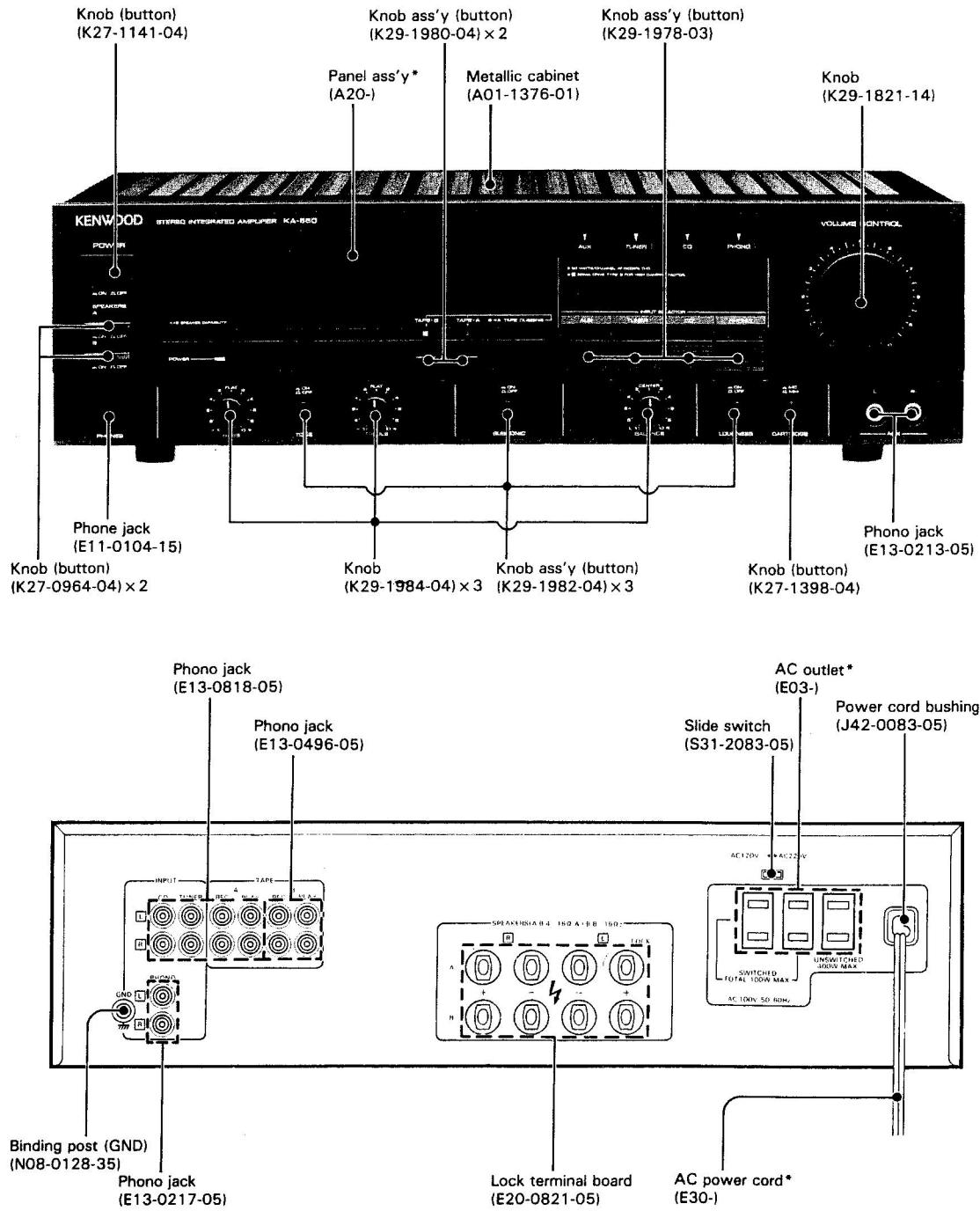


# SERVICE MANUAL

# KENWOOD

# KA-660

## STEREO INTEGRATED AMPLIFIER



\*Refer to Parts List on page 6.

## DISASSEMBLY FOR REPAIR

## REPLACEMENT OF PARTS ON AUDIO UNIT

1. Remove 2 screws at the chassis R (unified with the bottom plate) (①) and 3 screws at the rear panel (②).

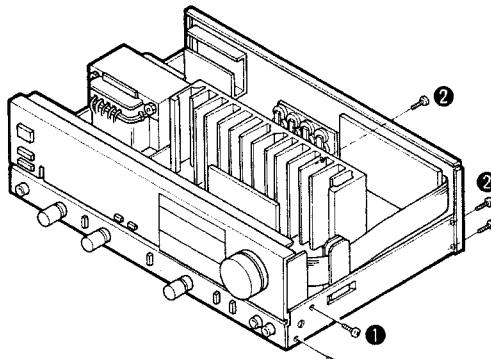


Fig. 1

2. Remove 6 screws at the bottom plate (③).
3. Slide and remove the bottom plate as shown by the arrow, being aware that parallel flat cable is sandwiched by pc boards (④).

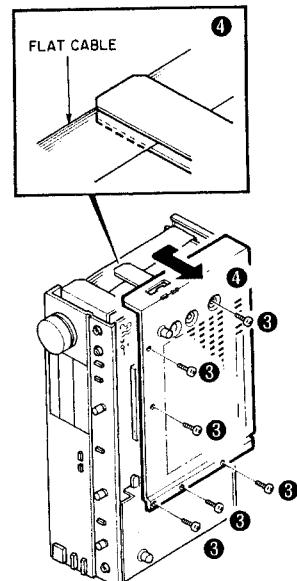


Fig. 2

## REPLACEMENT OF PARTS ON MAIN AMP UNIT

4. Pull off BASS, TREBLE and BALANCE knobs (⑤).
- Remove 3 screws at the top of the panel ass'y (⑥).
5. Remove 4 screws at the sides of the chassis, 2 on each side, (⑦) and 3 screws at the bottom side of the panel ass'y (⑧).

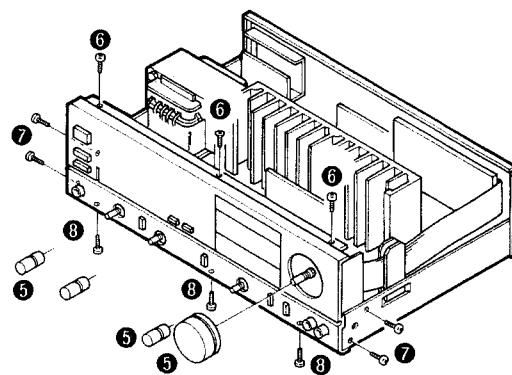
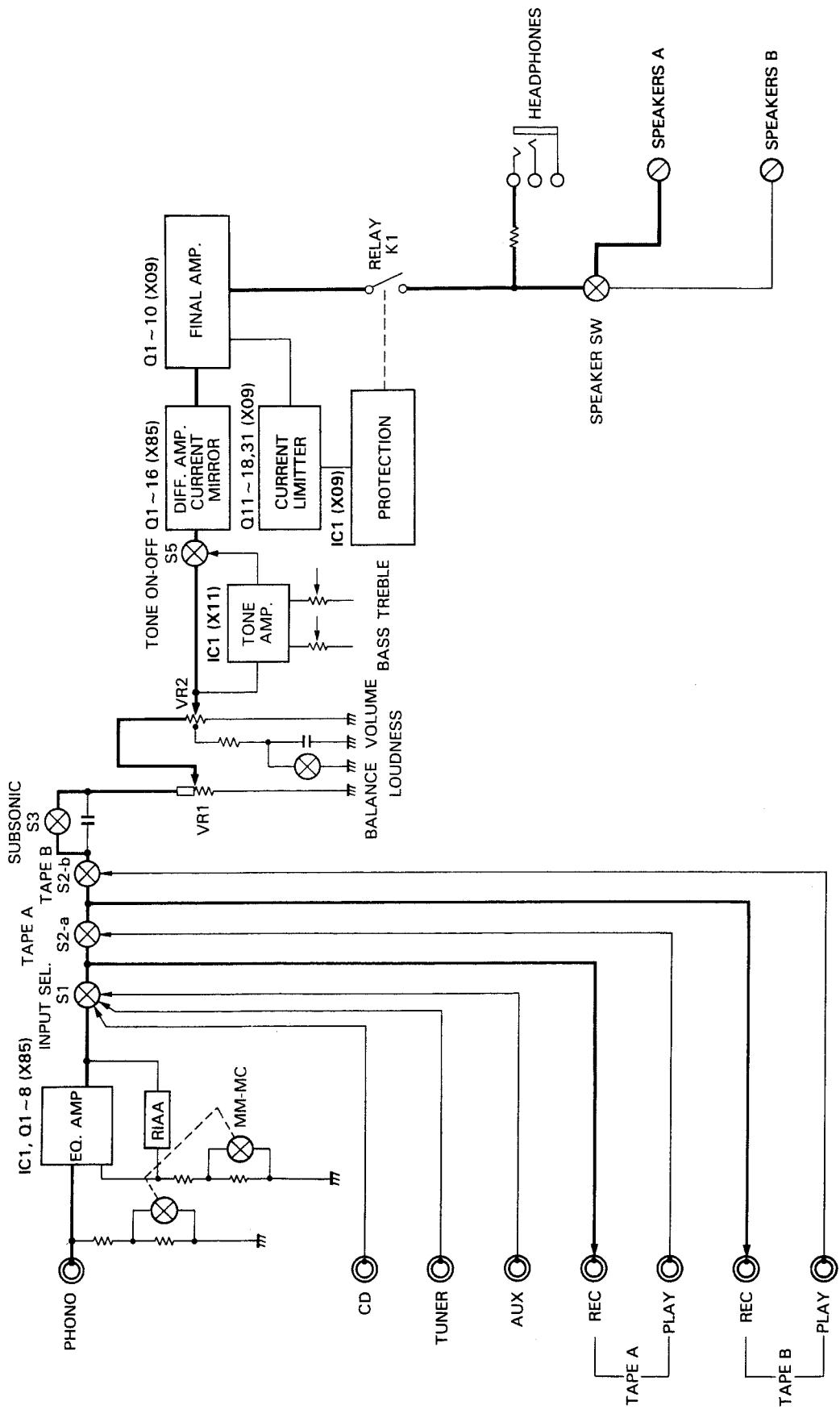


Fig. 3

## BLOCK DIAGRAM



6. Disconnect parallel cords from their connectors and take the panel ass'y frontward ( ⑨ , ⑩ ).

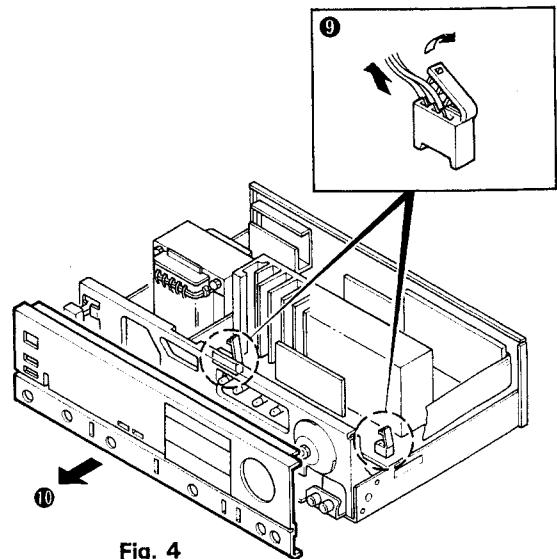


Fig. 4

### REPLACEMENT OF FLAT CABLE

7. Pull both ends of the connector ends ( ⑪ ). Pull out the flat cable ( ⑫ ).
8. When plugging in the flat cable be sure the both ends are pulled up ( ⑬ ).
9. After the flat cable has been inserted, all the way, push the both ends of the connector ( ⑭ ). Make sure the flat cable is secured in the connector.

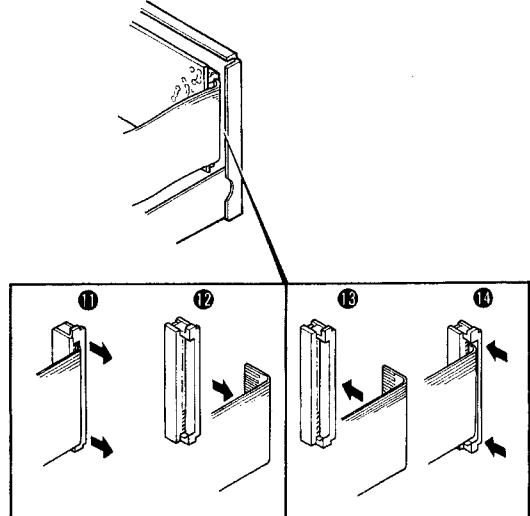


Fig. 5

### REPLACEMENT OF PARTS ON CONTROL UNIT

10. Remove 2 screws retaining the escutcheon of the INPUT SELECTOR ( ⑮ ).
11. Pull the knobs off ( ⑯ ).
- (Caution) **Pull the knobs off at switch-off position. Pulling off at switch-on position will cause a lock malfunction. This switch is a short stroke type switch and for this reason, switch on-off position is not easily distinguished.**
12. Remove 4 hexagonal nuts from the potentiometers ( ⑰ ).
13. Remove 2 screws retaining the selector switch ( ⑱ ).
14. Pull the sub chassis forward ( ⑲ ).
15. Remove 2 push rivets retaining the pc board ( ⑳ ).

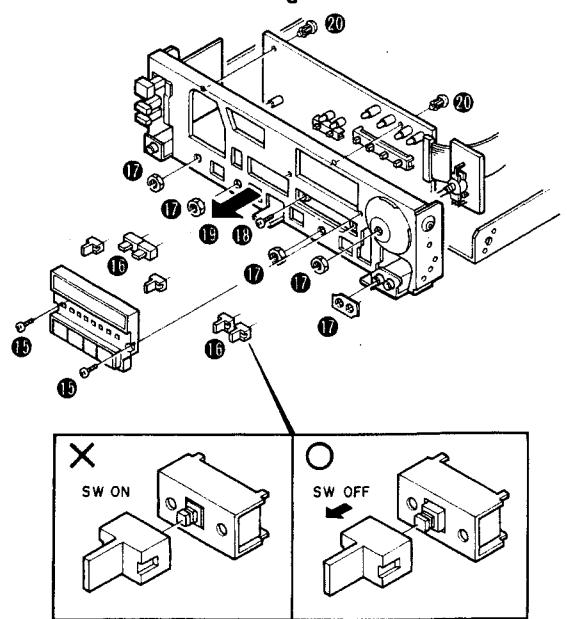


Fig. 6

## CIRCUIT DESCRIPTION

## PRE-AMP UNIT (X85-1010-10)

Components	Functions	Operations (Substitutions)
	Cascade amp.	
Q5-8	EQ circuit first-stage differential amp	
IC1	EQ circuit op-amp IC	

## CONTROL UNIT (X11-2130-10)

Components	Functions	Operations (Substitutions)
IC1	Tone circuit op-amp	

## AUDIO UNIT (X09-2130-10)

Components	Functions	Operations (Substitutions)
Q1, 2	Bias	
Q3-6	Driver	(2SA913, 2SC1913)
Q7-10	Final	
Q11-18, 31	Current limiter	Final protection circuit (Q17,18 for hight voltage resistance) for over-load drive.
Q32, 33	Voltage regulator circuit	Voltage regulation circuit inserted into the B line towards the EQ circuit. (2SA1110, 2SC2590)
Q34, 35	PHONO shock noise prevention circuit <b>Muting</b>	When the B voltage of the EQ circuit drops by switching power ON, and when the drop of the -B voltage is slower than that of +B, chemical capacitors C27 and C28, which are inserted in the EQ and NF circuits, are changed and the time between the power ON and the stabilization of output in terms of DC increases. This circuit prevents shock noise or relay which could occur when MM/MC is switched later.
IC1	Protection IC	This circuit disconnects the relay when the amp is malfunctioning.
D11-14	Rectifier	(GP25, U05C (S))
D18, 19	AVR for increasing the voltage.	(RD22J (B), RD20J (B))
D22, 23	AVR for EQ.	(RD20J (B2))
D3, 4	Thermal compensation	

## MAIN AMP UNIT (X85-1050-10)

Components	Functions	Operations (Substitutions)
Q1-4	Class A 1st stage differential amp	
Q5-8	2nd stage differential amp	
Q9, 10	Class A amp	
Q11-14	3rd stage differential amp	(2SC1904)
Q15, 16	Current mirror circuit	(2SA899)

## ADJUSTMENT/REGLAGES/ABGLEICH

## ADJUSTMENT

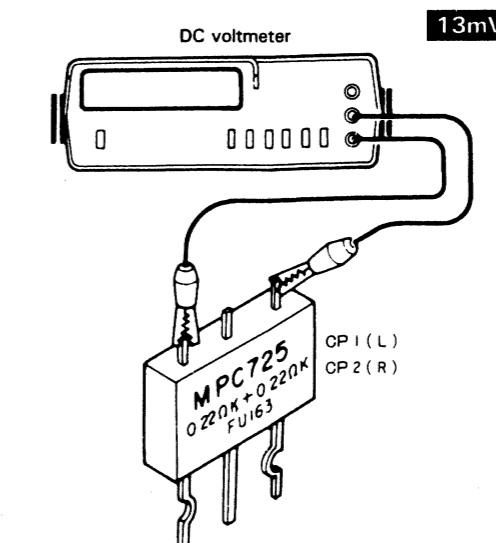
No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L) CP2 (R).	VOLUME: 0	VR1 (L) VR2 (R)	13mV	

## REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINS L'ALIGNEMENT	ALIGNER POUR	FIG.
1	COURANT DE POLARISATION	-	Connecter un voltmètre CC sur CP1 (G) CP2 (D).	VOLUME: 0	VR1 (G) VR2 (D)	13mV	

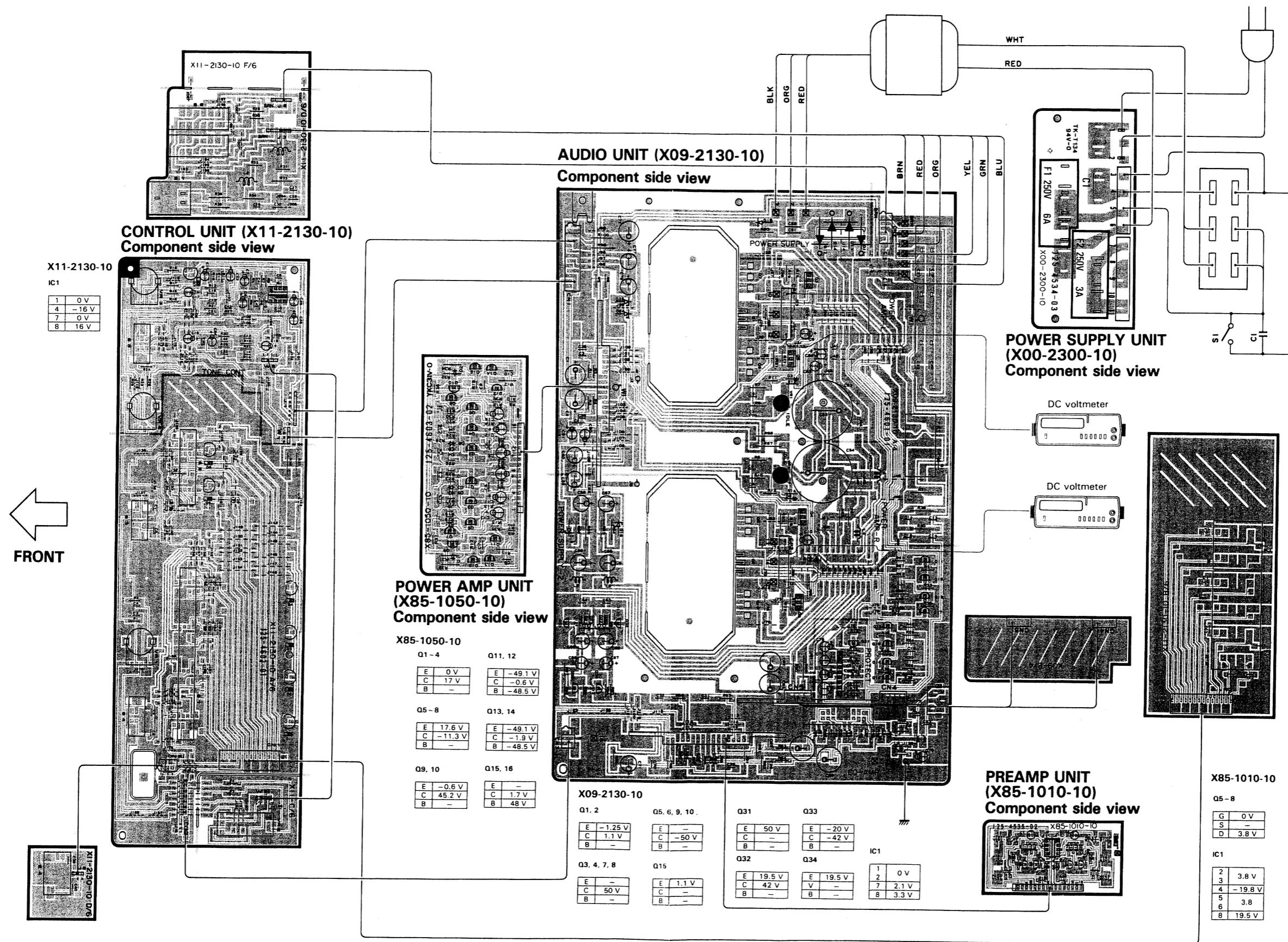
## ABGLEICH

NR.	GEGENSTAND	EINGANGSEINSTELLUNG	AUSGANGSEINSTELLUNG	VORSTÄRKEREINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
1	LEERLAUFSTROM	-	Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen.	VOLUME: 0	VR1 (L) VR2 (R)	13mV	



# KA-660 KA-660

## PC BOARD



Refer to the schematic diagram for the values of resistors and capacitors.  
The PC board drawing is viewing from the side easy to check.

# KENWOOD

## SPECIFICATION

EIA

### Power Amplifier Section

#### Power Output

60 watts\* per channel minimum RMS, both channels driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.006% total harmonic distortion

#### Both Channels Driven into

8 ohms at 1 kHz..... 65 W + 65 W (Except USA, Europe, and U.K.)

4 ohms at 1 kHz..... 90 W + 90 W (Except USA, Europe, and U.K.)

Dynamic Power Output..... 145 watts at 4 ohms (Except USA, Europe, Australia, and U.K.)

#### Total Harmonic Distortion

(AUX—SPKR 8 Ω)

at Rated Output,  
20 Hz ~ 20,000 Hz..... 0.006%

at 1/2 Rated Output,  
20 Hz ~ 20,000 Hz..... 0.004%

at Rated Output, 1,000 Hz..... 0.003%

(PHONO—SPKR 8 Ω : at -20 dB VOLUME Level)

at Rated Output,  
20 Hz ~ 20,000 Hz..... 0.006%

Intermodulation Distortion  
(60 Hz:7 kHz = 4:1)..... 0.006% at rated power  
into 8 ohms

Damping Factor ..... 1,000, at 50 Hz into 8 ohms

#### Transient Response

Rise Time ..... 3.5 μs  
1 μs to 100 μs

### Input Sensitivity/Impedance

Phono MM ..... 2.5 mV/47 k ohms

Phono MC ..... 0.2 mV/100 ohms

TUNER, AUX., TAPE PLAY,

CD ..... 150 mV/47 k ohms

### Signal-to-Noise Ratio (IHF-A)

Phono MM ..... 86 dB for 2.5 mV input

Phono MC ..... 68 dB for 250 μV input

TUNER, AUX., TAPE PLAY,

CD ..... 107 dB

### Maximum Input Level for Phono

MM ..... 200 mV (RMS), T.H.D. 0.006%  
at 1 kHz

MC ..... 15 mV (RMS), T.H.D. 0.006%  
at 1 kHz

### Output Level/Impedance

TAPE REC (Pin) ..... 150 mV/220 ohms

Frequency Response for Phono ..... RIAA standard curve ±0.3 dB  
(20 Hz to 20,000 Hz)

### Tone Control

Bass ..... ±10 dB at 100 Hz

Treble ..... ±10 dB at 10 kHz

### Loudness Control

(at -30 dB VOLUME Level) ..... +9 dB at 100 Hz

Subsonic Filter ..... 18 Hz, 6 dB/oct.

### General

Power Consumption ..... 220 W

AC Outlets ..... Switched 2, Unswitched 1  
(Except U.K., European,  
Australian countries)

Dimensions ..... W: 440 mm (17-5/16")  
H: 133 mm (5-1/4")  
D: 333 mm (13-1/8")

# STEREO INTEGRATED AMPLIFIER

## IEC

### Power Amplifier Section

#### Rated Power Output

8 ohms at 20 Hz to 20,000 Hz no more than 0.006% THD (FTC).....	60 W + 60 W
4 ohms at 60 Hz to 12.5 kHz no more than 0.7% THD (IEC/NF).....	90 W + 90 W

#### Total Harmonic Distortion

Rated Power Output into 8 ohms.....	0.006%
Intermodulation Distortion.....	0.006%

Frequency Response.....	1 Hz ~ 100 kHz +0 dB, -3 dB
-------------------------	--------------------------------

#### S/N Weighted: Rated Output Power (IEC-A)

( ) = Unweighted at 50 mW (DIN)	
Phono MM .....	86 dB (55 dB)
Phono MC .....	68 dB (60 dB)
TUNER, AUX., TAPE PLAY, CD .....	107 dB (57 dB)

Damping Factor at 8 ohms, 50 Hz .....	1,000
---------------------------------------	-------

#### Transient Response

Rise Time .....	3.5 $\mu$ s
-----------------	-------------

#### Input Sensitivity/Impedance

Phono MM .....	2.5 mV/47 k $\Omega$
Phono MC .....	0.2 mV/100 $\Omega$
TUNER, AUX., TAPE PLAY, CD .....	150 mV/47 k $\Omega$

#### Tone Control

Bass 100 Hz .....	$\pm$ 10 dB
Treble 10 kHz .....	$\pm$ 10 dB

Loudness Control (-30 dB).....	9 dB at 100 Hz
--------------------------------	----------------

### General

#### Power Consumption

IEC .....	220 W
-----------	-------

Dimensions .....	W: 440 mm
------------------	-----------

H: 133 mm

D: 333 mm

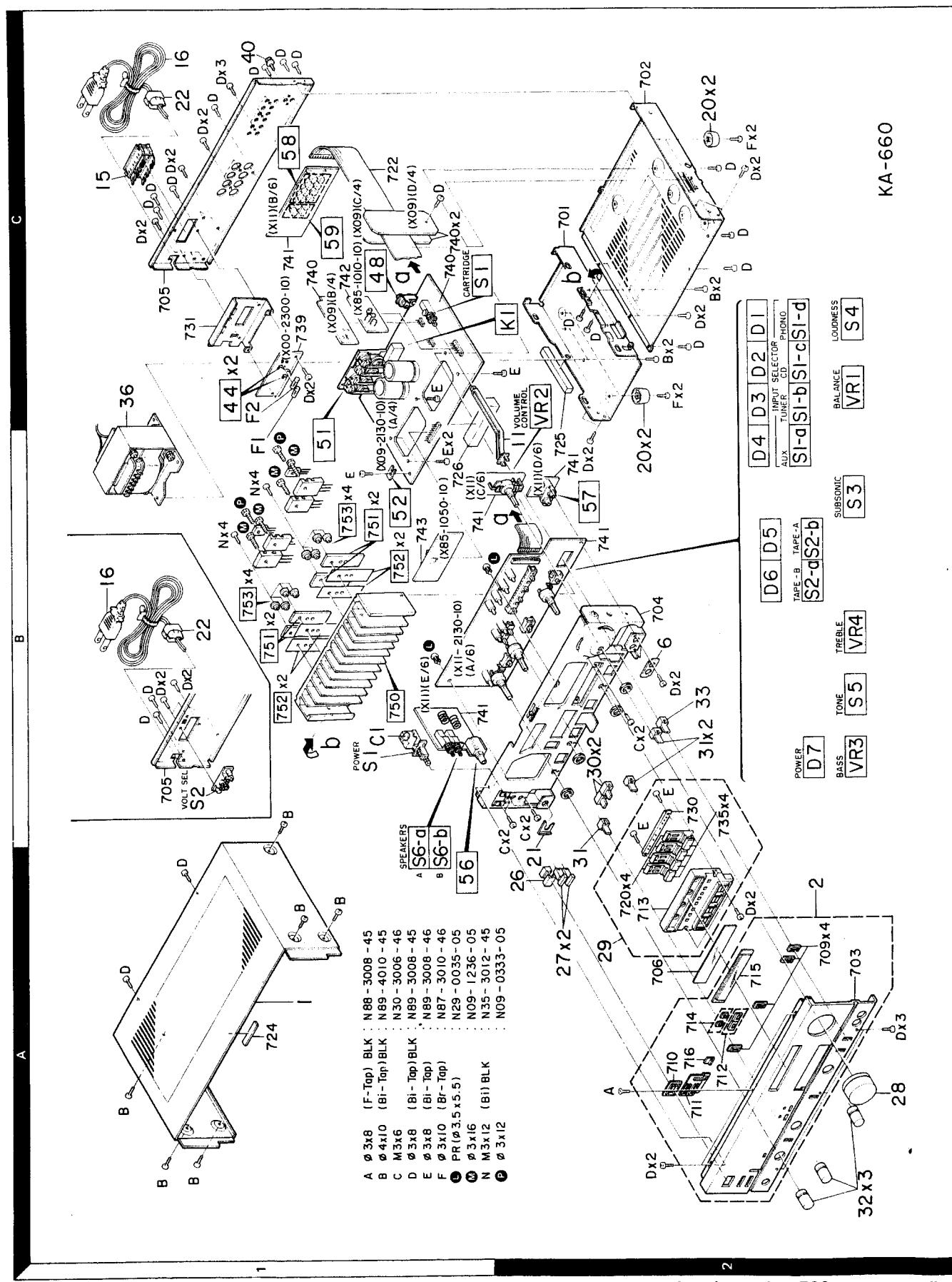
Weight (Net) .....	8.9 kg
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Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen

## EXPLODED VIEW



## PARTS LIST

\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
<b>KA-660</b>						
1	1A	*	A01-1376-01	METALLIC CABINET	KPUM	
2	2A	*	A20-4366-02	PANEL ASSY	UEXE	
2	2A	*	A20-4366-02	PANEL ASSY	T	
2	2A	*	A20-4367-02	PANEL ASSY		
6	2B		B03-0229-14 B46-0092-03 B46-0094-03 B46-0095-03 B46-0096-13	DRESSING PLATE (FRNNT AUX) WARRANTY CARD WARRANTY CARD WARRANTY CARD WARRANTY CARD	K UUE UUE X	
			B46-0121-03 B46-0122-13 B46-0123-03	WARRANTY CARD WARRANTY CARD WARRANTY CARD	P E T	
		*	B50-5502-00 B50-5502-00	INSTRUCTION MANUAL (ENGLISH) INSTRUCTION MANUAL (ENGLISH)	KPUM UEXE	
		*	B50-5503-00 B50-5504-00 B50-5506-00 B50-5507-00 B58-0222-14	INSTRUCTION MANUAL (FRENCH) INSTRUCTION MANUAL (SPANISH) INSTRUCTION MANUAL (ENGLISH) INSTRUCTION MANUAL (D, I, G) CAUTION CARD (PRE-SET 220V)	PMXE M T E UE	
			B58-0223-04 B58-0245-33 B58-0269-04 B59-0092-00	CAUTION CARD (PRE-SET 120V) CAUTION CARD (FTZ) CAUTION CARD SERVICE DIRECTORY	U E K UUE	
△ C1	1B		C91-0023-05 C91-0647-05	CERAMIC 0.01UF AC250V	UMUE	
△ C1	1B			CERAMIC 0.01UF P	KPXTE	
11	2B		D21-1068-03	EXTENSION SHAFT		
△ 15	1C		E03-0068-05	AC NUTLET	P	
△ 15	1C		E03-0069-05	AC NUTLET	KUMUE	
△ 16	1B, 1C		E30-0181-05	AC POWER CORD	K	
△ 16	1B, 1C		E30-0459-05	AC POWER CORD	E	
△ 16	1B, 1C		E30-0587-15	AC POWER CORD	T	
△ 16	1B, 1C		E30-0912-05	AC POWER CORD	UMUE	
△ 16	1B, 1C		E30-0974-05	AC POWER CORD	P	
△ 16	1B, 1C		E30-1341-05	AC POWER CORD	X	
△ F1	1B		F05-4022-05	FUSE (250V 4A)	UMUE	
△ F1	1B		F05-4025-05	FUSE (SEMKO) (250V T4A)	E	
△ F1	1B		F06-4024-05	FUSE (UL) (250V 4A)	KP	
△ F2	1C		F05-2023-05	FUSE (250V 2A)	UMUE	
△ F2	1C		F06-2021-05	FUSE (SEMKO) (250V T2A)	XTE	
		*	H01-5321-04 H01-5321-04 H01-5322-04 H10-1770-02 H10-1771-02	ITEM CARTON CASE ITEM CARTON CASE ITEM CARTON CASE POLYSTYRENE FOAMED FIXTURE POLYSTYRENE FOAMED FIXTURE	KPUM UEXE T	
			H25-0224-04 H25-0232-04	PROTECTION BAG (800X400) PROTECTION BAG (235X350)		
20	2B, 2C		J02-0127-05	FOOT		
21	2A		J21-3326-05	JACK MOUNTING HARDWARE		
22	1B, 1C		J42-0083-05	POWER CORD BUSHING		
			J61-0307-05	WIRE BAND		

E: Scandinavia &amp; Europe H: Audio Club K: USA

P: Canada

S: South Africa

T: England U: PX(Far East, Hawaii)

UE AAFES(Europe)

X: Australia M: Other Areas

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26	2A		K27-1141-04	KNOB (BUTTON) POWER		
27	2A		K27-0964-04	KNOB (BUTTON) SPEAKERS		
28	2A		K29-1821-14	KNOB VOLUME		
29	2A		K29-1978-03	KNOB ASSY (BTN) INPUT SELECTOR		
30	2B		K29-1980-04	KNOB ASSY (BTN) TAPE		
31	2A, 2B		K29-1982-04	KNOB ASSY (BTN) TONE, SUB, L.BUD		
32	2A		K29-1984-04	KNOB BASS, TREBLE, BALANCE		
33	2B		K27-1398-04	KNOB (BUTTON) CARTRIDGE		
▲ 36	1C	*	L01-6651-05	POWER TRANSFORMER	KP	
▲ 36	1C	*	L01-6752-05	POWER TRANSFORMER	XT	
▲ 36	1C	*	L01-6656-05	POWER TRANSFORMER	UMUEE	
40	1C		N09-0120-35	BINDING PNST (GND)		
L	1B, 2B		N29-0035-05	PUSH RIVET (Ø 3.5X5.5)		
▲ S1	1B		S40-1073-05	PUSH SWITCH (POWER)	UMUEE	
▲ S2	1B		S31-2083-05	SLIDE SWITCH (VOLTAGE SELECT)	UMUEE	
<b>POWER SUPPLY UNIT (X00-2300-10)</b>						
△ C1	1B		C91-0023-05	CERAMIC 0.01UF	AC250V	UMUE
△ C1	1B		C91-0647-05	CERAMIC 0.01UF	P	KPXTE
44	1C		J13-0041-05	FUSE CLIP		
44	1C		J13-0041-05	FUSE CLIP		KPJM
44	1C		J13-0054-05	FUSE CLIP	UE	XET
<b>AUDIO UNIT (X09-2130-10)</b>						
C1 ,2			CE04FW0J102M	ELECTRO 1000UF	6.3WV	
C3 ,4			CC45FSL1H180J	CERAMIC 18PF	J	
C5 -8			CC45FSL1H331J	CERAMIC 330PF	J	
C9 ,10			CE04FW1A220M	ELECTRO 22UF	10WV	
C11 -14			CF92FV1H393J	MF 0.039UF	J	
C15 ,16			CF92FV1H334J	MF 0.33UF	J	
C19 -22			CK45FF1H472Z	CERAMIC 4700PF	Z	
C23 ,24			CC45FSL1H221J	CERAMIC 220PF	J	XTE
C25 ,26			CC45FSL1H101J	CERAMIC 100PF	J	KPJM
C25 ,26			CC45FSL1H101J	CERAMIC 100PF	J	UE
C25 ,26			CF45FSL1H121J	CERAMIC 120PF	J	XTE
C27 ,28			CE04FW0J222M	ELECTRO 2200UF	6.3WV	XTE
C31 -34			CK45FB1H102K	CERAMIC 1000PF	K	KPJM
C31 ,32			CK45FB1H102K	CERAMIC 1000PF	K	UE
C31 ,32			CK45FB1H102K	CERAMIC 1000PF	K	
C35 ,36			CC45FSL1H020C	CERAMIC 2.0PF	C	
C37 ,38			CF92FV1H104J	MF 0.10UF	J	
C51 ,52			CK45FE2H103P	CERAMIC 0.010UF	P	
C53 ,54			C90-0492-05	ELECTRO 10000UF	56WV	
C55 ,56		*	CE04FW1J330M	ELECTRO 33UF	63WV	
C57 ,58			CE04FW1H470M	ELECTRO 47UF	50WV	
C59 ,60			CE04FW1E101M	ELECTRO 100UF	25WV	
C61 ,62			CE04FW1J101M	ELECTRO 100UF	63WV	
C63 ,64			CF92FV1H103J	MF 0.010UF	J	
C65 ,66			CE04FW1E101M	ELECTRO 100UF	25WV	
C67 ,68			CE04FW1E470M	ELECTRO 47UF	25WV	
C69 ,70			CF92FV1H103J	MF 0.010UF	J	
C71			CE04FW1E101M	ELECTRO 100UF	25WV	
C72			CE04FW1J101M	ELECTRO 100UF	63WV	
C73			CE04FW1C470M	ELECTRO 47UF	16WV	

E: Scandinavia &amp; Europe H: Audio Club K: USA

P: Canada

S: South Africa

T: England

U: PX(Far East, Hawaii)

UE AAFES(Europe)

X: Australia

M: Other Areas

6

△ indicates safety critical components.

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C74			CEO4FW1V4R7M	ELECTRN	4.7UF	35WV			
C75			CEO4HW1E100M	NP-ELEC	10UF	25WV			
C76			CEO4FW1A220M	ELECTRN	22UF	10WV			
C77 ,78			CEO4FW1E101M	ELECTRN	100UF	25WV			
C79			CEO4FW1H0R1M	ELECTRN	0.1UF	50WV			
C80 ,81		*	CEO4FW2AR22M	ELECTRN	0.22UF	100WV			
C82			CF92FV1H223J	MF	0.022UF	J			
C83 ,84			CEO4FW2A010M	ELECTRN	1.0UF	100WV			
48	1C		E13-0217-05	PHONE JACK	(2P)	PHONE			
S1	1B		E20-0821-05	LOCK TERMINAL	BOARD(8P)	SP			
S2	1B		E23-0125-05	TERMINAL	(GND)				
L1 ,2			L40-1011-47	SMALL FIXED INDUCTOR(100UH,K)				XTE	
L3 -6			L40-1011-14	SMALL FIXED INDUCTOR(100UH,K)					
M	1B		N09-1236-05	TAPPING SCREW	(Ø3X16)				
P	1B		N09-0333-05	TAPPING SCREW	(Ø3X12)				
CP1 ,2			R90-0187-05	MULTI-COMP	0.22X2	K	5W		
R7 -10			RD14AB2E101J	FL-PROOF RD	100	J	1/4W		
R15 -18			RD14AB2E101J	FL-PROOF RD	100	J	1/4W		
R19 -22			RD14AB2E4R7J	FL-PROOF RD	4.7	J	1/4W		
R27 -30		*	RD14AB2E102J	FL-PROOF RD	1.0K	J	1/4W		
R39 ,40			RS14DB3D4R7J	FL-PROOF RS	4.7	J	2W		
R71		*	RS14DB3D152J	FL-PROOF RS	1.5K	J	2W		
R80			RD14AB2E100J	FL-PROOF RD	10	J	1/4W		
R81 ,82			RD14AB2E4R7J	FL-PROOF RD	4.7	J	1/4W		
R83 ,84			RS14DB3A561J	FL-PROOF RS	560	J	1W		
R85 ,86			RS14DB3A102J	FL-PROOF RS	1.0K	J	1W		
R87 ,88		*	RS14DB3D182J	FL-PROOF RS	1.8K	J	2W		
R89 ,90			RS14DB3D331J	FL-PROOF RS	330	J	2W		
R95			RD14AB2E4R7J	FL-PROOF RD	4.7	J	1/4W		
R98			RD14AB2E101J	FL-PROOF RD	100	J	1/4W		
R99			RS14DBGD102J	FL-PROOF RS	1.0K	J	2W		
R100		*	RS14DB3A103J	FL-PROOF RS	10K	J	1W		
VR1 ,2			R12-0094-05	TRIMMING POT. (470) IDLE ADJ					
K1	2C		S51-2060-05	MAGNETIC RELAY					
S1	1C		S40-6027-05	PUSH SWITCH (MC/MM)					
D1 ,2			ISS131	DINDE					
D1 ,2			ISS178	DINDE					
D3 ,4			MA27W(A)	VARISTOR					
D11 -14			S3V20	DINDE					
D15			DSM1A1	DINDE					
D16 ,17			ISS131	DINDE					
D16 ,17			ISS178	DINDE					
D18		*	RD22JS(B)	ZENER DINDE					
D19		*	RD20JS(B2)	ZENER DINDE					
D20 ,21			E-272	CONSTANT CURRENT DINDE					
D22 ,23		*	RD20JS(B2)	ZENER DINDE					
D24 ,25		*	RD16E(B)	ZENER DINDE					
IC1			UPC1237H	IC(PROTECTION)					
Q1 ,2		*	2SC3419(Y)	TRANSISTOR					
Q3 ,4			2SC2591(Q,R,S)	TRANSISTOR					
Q5 ,6		*	2SA1111(Q,R,S)	TRANSISTOR					
Q7 ,8		*	2SC3280*S	TRANSISTOR					

E: Scandinavia &amp; Europe H: Audio Club K: USA

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△ indicates safety critical components.

## PARTS LIST

\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti- nation 仕 向	Re- marks 備考
Q9 ,10		*	2SA1301*5	TRANSISTOR		
Q11 ,12			2SC2320(E,F)	TRANSISTOR		
Q11 ,12			2SC945(A)(Q,P)	TRANSISTOR		
Q13 ,16			2SA733(A)(Q,P)	TRANSISTOR		
Q13 ,16			2SA999(E,F)	TRANSISTOR		
Q17 ,18			2SC2631(C,R,S)	TRANSISTOR		
Q31			2SA992(F,E)	TRANSISTOR		
Q32			2SD882(Q,P)	TRANSISTOR		
Q33			2SB772(Q,P)	TRANSISTOR		
Q34 ,35			2SA733(A)(Q,P)	TRANSISTOR		
Q34 ,35			2SA999(E,F)	TRANSISTOR		

## CONTROL UNIT (X11-2130-10)

D1 ,4	2B,2C	B30-0431-05	LED(LN21CPH)	INPUT SELECTOR		
D5 ,6	2B	B30-0432-05	LED(LN316CPH(U))	TAPE A/B		
D7	2B	B30-0431-05	LED(LN21CPH)	POWER		
C1 ,2		CF92FV1H224J	MF	0.22UF	J	
C3 ,4		CC45FSL1H101J	CERAMIC	100PF	J	
C5 ,6		CF92FV1H273J	MF	0.027UF	J	
C7 ,8		CE04FW1H010MEL	ELECTRO	1.0UF	50WV	
C9 ,10		CC45FSL1H150J	CERAMIC	15PF	J	
C11 ,14		CF92FV1H334J	MF	0.33UF	J	
C15 ,18		CE04FW1E100MEL	ELECTRO	10UF	25WV	
C19 ,22		CF92FV1H223J	MF	0.022UF	J	
C23 ,26		CE04FW1H010MEL	ELECTRO	1.0UF	50WV	
C27 ,30		CF92FV1H393J	MF	0.039UF	J	XTE
C27 ,28		CF92FV1H183J	MF	0.018UF	J	KPUM
C27 ,28		CF92FV1H183J	MF	0.018UF	J	UE
C31 ,40		CC45FSL1H151J	CERAMIC	150PF	J	XTE
C41 ,42		CC45FSL1H101J	CERAMIC	100PF	J	
C43 ,44		CK45FB1H561K	CERAMIC	560PF	K	
56	1A	E11-0104-15	PHONE JACK (3P)	PHONES		
57	2B	E13-0213-05	PHONE JACK (2P)	AUX		
58	1C	E13-0818-05	PHONE JACK (8P)	CD,TUNER,TAPE A		
59	1C	E13-0496-05	PHONE JACK (4P)	TAPE B		
L1 ,2		L39-0080-15	PHASE-COMPENSATION COIL			
R29 ,30		RD14AB2E330JTS	FL-PROOF RD	33	J 1/4W	
R31 ,32		RD14AB2E4R7JTS	FL-PROOF RD	4.7	J 1/4W	
R33 ,34		RS14DB3D100J	FL-PROOF RS	10	J 2W	
R35 ,36		RS14DB3D561J	FL-PROOF RS	560	J 2W	
R37	*	RS14DB3D222J	FL-PROOF RS	2.2K	J 2W	
R38		RS14DB3D182J	FL-PROOF RS	1.8K	J 2W	
VR1	2C	RO6-5134-05	POTENTIOMETER(200KX2)	BALANCE		
VR2	2C	RO6-5135-05	POTENTIOMETER(100KX2)	VOLUME		
VR3 ,4	2B	RO6-3048-05	POTENTIOMETER(10KX2)	TONE		
S1	2B,2C	S42-4044-05	MULTI-PUSH SWITCH	INPUT		
S2	2B	S42-2126-05	MULTI-PUSH SWITCH	TAPE		
S3 ,5	2B,2C	S40-2200-05	PUSH SWITCH	SUB,LOUD+TONE		
S6	1A	S42-2125-05	MULTI-PUSH SWITCH	SPEAKER		
IC1		NJM4558D(A)	IC(NP AMP X2)			

## PREAMP UNIT (X85-1010-10)

C1 ,2			CF92FV1H392J	MF	3900PF	J	
C3 ,4			CF92FV1H113J	MF	0.011UF	J	

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Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部 品 番 号	Description 部 品 名 / 規 格			Desti- nation 仕 向	Re- marks 備 考
C5 ,6 C7 ,8			CF92FV1H393J CE04HW1E100MEL	MF NP-ELEC	0.039UF 10UF	J 25WV		
R7 ,8 R9 ,10	*	*	RN14BK2C6811FTS RN14BK2CB252FTS	RN RN	6.81K 82.5K	F F	1/6W 1/6W	
IC1 Q5 -8 Q5 -8			NJM4560D-N 2SK170(BL) 2SK170(V)	IC(8P AMP X2) FET FET				

## POWER AMP UNIT (X85-1050-10)

C1 ,2 C3 -6 C7 ,8 C9 ,10 C11 -14		CE04FW1H2R2MEL CC45FSL1H101J CC45FSL1H331J CC45FSL1H150J CE04FW1H010MEL	ELECTRO CERAMIC CERAMIC CERAMIC ELECTRO	2.2UF 100PF 330PF 15PF 1.0UF	50WV			
C15 ,16 C17 ,18		CK45FB1H152K CK45B1H561K	CERAMIC CERAMIC	1500PF 560PF	K			
R11 ,12 R31 -34		RD14AB2E101JTS RD14AB2E221JTS	FL-PROOF RD FL-PROOF RD	100 220	J 1/4W J 1/4W			
D1 -6 D1 -6 Q1 -4 Q5 -8 Q5 -8		1SS133 1SS176 2SC1845(F,E) 2SA733(A)(Q,P) 2SA999(E,F)	DINDE DINDE TRANSISTOR TRANSISTOR TRANSISTOR					
Q9 -14 Q15 ,16		2SC2632(Q,R,S) 2SA1124(Q,R,S)	TRANSISTOR TRANSISTOR					

E: Scandinavia &amp; Europe H: Audio Club K: USA

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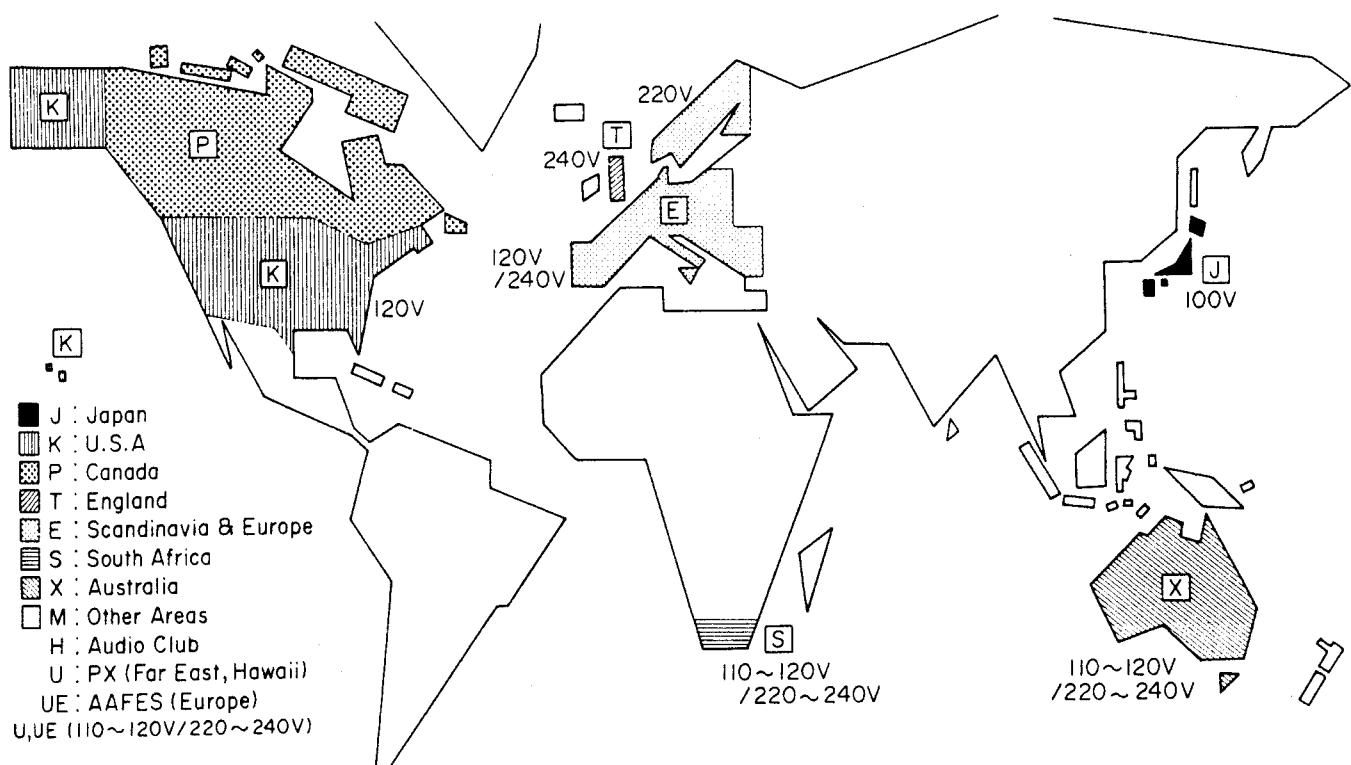
UE: AAFES(Europe)

X: Australia

M: Other Areas

⚠ indicates safety critical components.

## WORLD MAP &amp; AREA CODE

**Note:**

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

**TRIO-KENWOOD CORPORATION**

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

**KENWOOD ELECTRONICS**  
DIVISION OF KENWOOD U.S.A. CORPORATION  
1315 E. Watsoncenter Rd., Carson, California 90745; U.S.A.  
75 Seaview Drive, Secaucus, New Jersey 07094, U.S.A.

**TRIO-KENWOOD CANADA INC.**,  
1070 Jayson Court, Mississauga, Ontario, Canada L4W 2V5

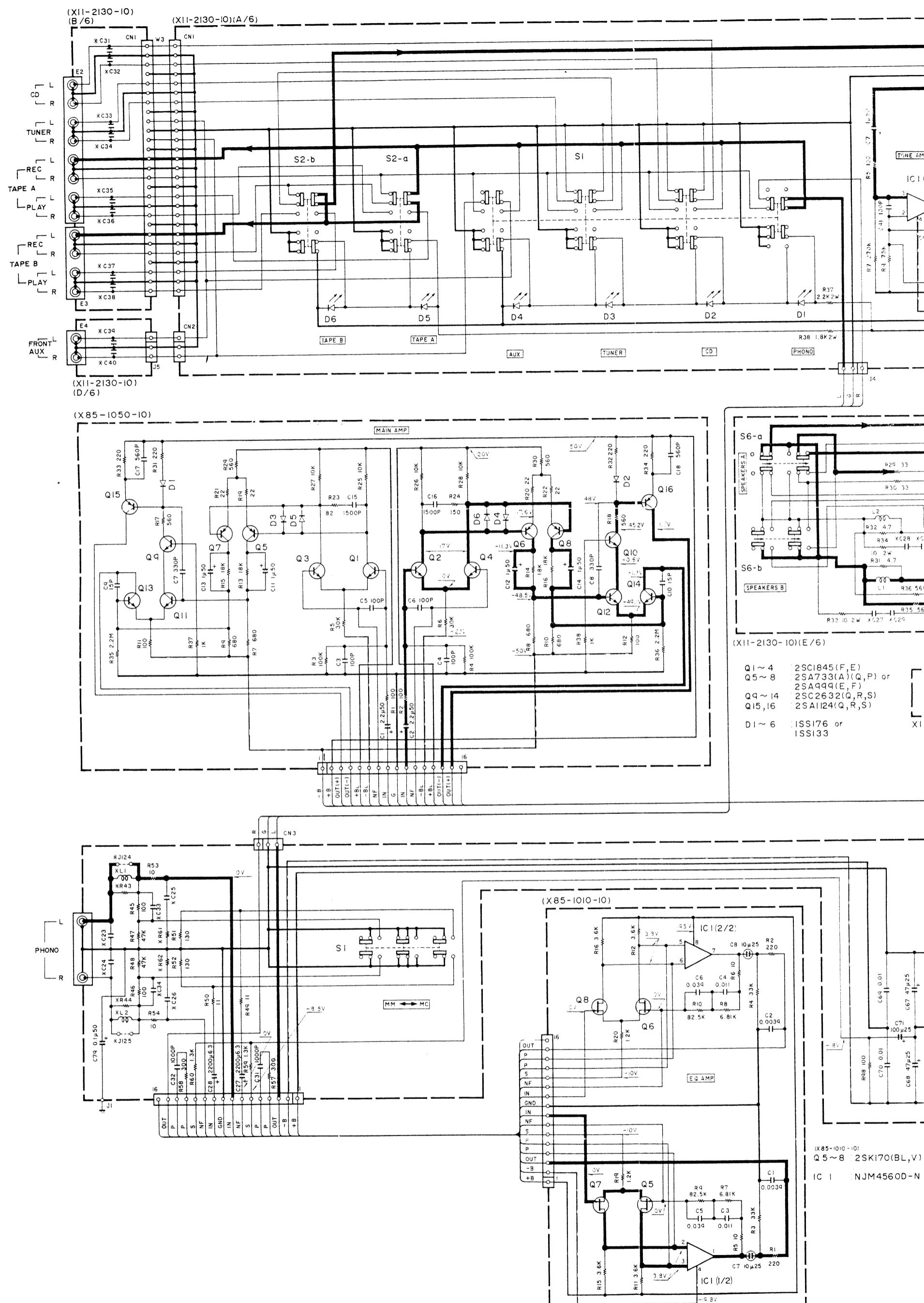
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Leuvensesteenweg 504 B-1930 Zaventem, Belgium

**TRIO-KENWOOD ELECTRONICS GmbH**  
Rembrücker Str. 15, 6056 Heusenstamm, West Germany

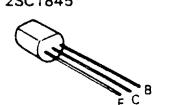
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5, Boulevard Ney, 75018 Paris, France

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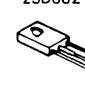
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2SA733 (A) 2SC2631  
2SA992 2SC2632  
2SA999 2SC945 (.  
2SC1845



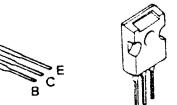
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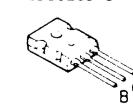
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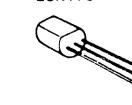
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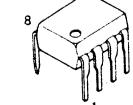
2SA1301•5  
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2SK170



NJM4558D (A)  
NJM4560D-N  
5



$\mu$ PC1237H

